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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,891	12/13/2000	Fumihiko Haga	040302/0249	5674
22428	7590	03/02/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			JOHNSON, EDWARD M	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,891

Applicant(s)

HAGA ET AL.

eb

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-18 is/are pending in the application.
- 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/10/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. Applicants' remarks, filed on June 5, 2003, have been carefully considered.

Claims 2-18 remain pending in this application.

2. Claims 11-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made without traverse in Paper No. 8.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4, 6, & 9 are rejected under 35 U.S.C. 103(c) as being obvious over Suzuki et al., "hereinafter Suzuki", (US Pat. 5,849,254).

Suzuki discloses a catalyst comprising: a porous support; a lower layer loaded on said porous support, said lower layer comprising a noble metal catalyst ingredient and at least one NOx absorber selected from the group consisting of alkaline metals, alkaline-earth metals and

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rare earth metals; and an upper layer formed on said lower layer, said upper layer comprising oxides of at least one metal selected from the group consisting of iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), and manganese (Mn) (see col. 11, claim 1). Suzuki further discloses that zinc (Zn) is also a suitable catalytic component (see col. 2, ln 55-56). Suitable porous acidic supports include SiO_2 , ZrO_2 , TiO_2 , Al_2O_3 , and so on (see col. 2, ln 61-63). Suzuki specifically discloses that the first catalyst comprises a first honeycomb support formed of cordierite, a first catalyst carrier layer formed of SiO_2 , and coated on the surface of the first honeycomb support, and platinum (Pt) loaded on the first carrier layer (see col. 5, ln 5-9). The third catalyst comprises a third honeycomb support formed of cordierite, a third catalyst carrier layer formed of Al_2O_3 and coated on the surface of the third honeycomb support, and platinum (Pt) and rhodium (Rh) loaded on the third catalyst layer (see col. 5, ln 14-18).

Regarding claim 2, it is considered the upper layer of the reference is the catalytic component I, and the lower layer of the reference is the catalytic component II. While Suzuki does not specifically recite using Cu and Zn together or a layer containing both Cu and Zn, it is prima facie obvious to one of ordinary skill in the art at the time the invention was made to have utilized both Cu and Zn together to achieve an effective catalyst because Suzuki discloses in the reference that Zn is also a suitable catalytic component, which can be employed.

Regarding claim 4, the claim is met by the teaching of the reference because the reference teaches alkaline-earth metals, which include magnesia as being claimed.

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Regarding claim 6, it is considered the claim is met because the reference teaches that the first catalyst layer contains Pt (which is the claimed catalytic component IIB) and the third catalyst layer also contains noble metals, platinum (Pt) and rhodium (Rh), (which is the claimed catalytic component IIA).

Regarding claim 9, the claim is met by the reference since Suzuki teaches the first catalyst contains SiO₂ (see Suzuki at col. 5, ln 5-9).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 5, 7-8, & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., "hereinafter Suzuki", (US Pat. 5,849,254), as applied to claims 2, 4, 6, & 9 above, and further in view of Takahata et al., "hereinafter Takahata", (US Pat. 5,376,610).

Suzuki discloses a catalyst as described above, except for the following differences.

Regarding claims 3 & 8, Suzuki does not disclose Cu, Zn, metal oxide, and one of Pt and Pd are dispersed and mixed together as being claimed. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have added the Pt and/or

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Pd to the upper layer containing Cu, Zn, and metal oxide to obtain an improved catalyst in Suzuki, because Takahata teaches that Pt and/or Pd is an effective catalytic component for exhaust gas catalyst (see Takahata at col. 18, claim 1).

Regarding claims 5 & 10, Suzuki does not disclose zinc oxide, zirconia, palladium and cerium oxide together. However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have incorporated palladium and cerium oxide into the catalyst of Suzuki in order to obtain an improved catalyst because Takahata fairly teaches palladium is an effective catalytic component for exhaust gas catalyst (see Takahata at col. 4, ln 36-38), and cerium oxide (CeO_2) when used with ZrO_2 gives improved oxygen storability (see Takahata at col. 4, ln 63-65).

Regarding claim 7, Suzuki does not disclose a catalyst containing a substrate, and two catalytic layers containing noble metal and metal oxide. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have combined the teaching of the Takahata reference forming two catalytic layers containing noble metals to obtain a more effective catalyst in Suzuki, because Takahata fairly teaches three catalytic layers with two catalytic layers containing noble metals (see Takahata at col. 19, claim 32).

Response to Arguments

Applicant's arguments filed 11/18/03 have been fully considered but they are not persuasive.

It is argued that in contrast, Suzuki discloses that oxide of Fe... and noble metals. This is not persuasive because Applicant does not claim a catalyst wherein SO_x reaches the NO_x absorbing layer, as Applicant appears to suggest is a distinguishing feature of the invention from the prior art. It is noted that the features upon which applicant relies (i.e., a catalyst wherein SO_x reaches the NO_x absorbing layer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that therefore, Suzuki does not disclose or suggest claim 2, as amended... in claim 2. This is not persuasive because the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used both Cu and Zn together in the same layer to achieve an effective catalyst because Suzuki discloses that Zn is also a suitable catalytic component.

It is argued that the methanol reforming catalyst of claim 6... Zn oxide. This is not persuasive because it is considered that it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to have used both Cu and Zn together in the same layer to achieve an effective catalyst because Suzuki discloses that Zn is also a suitable catalytic component.

It is argued that as set forth above, in Suzuki... in the NOx absorber. This is not persuasive for the reasons above. Applicant does not claim a catalyst wherein a metal oxide layer is not located upstream or downstream. Therefore, the claimed invention cannot be distinguished from the prior art on such basis. See *In re Van Geuns*, supra.

It is argued that with respect to claim 7... a vertical direction. This is not persuasive for the reasons already of record and because Applicant does not claim a lamination or direction, as Applicant appears to suggest. It is noted that the features upon which applicant relies (i.e., a catalyst that is "laminated" in a "vertical direction") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EMJ



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